



6560-50-P

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 52**

**[EPA-R06-OAR-2010-0333; FRL-9900-83-Region6]**

**Approval and Promulgation of Implementation; Texas; Houston: Reasonable Further Progress Plan, Contingency Measures, and Transportation Conformity Budgets for the 1997 8-Hour Severe Ozone Nonattainment Area**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The EPA is proposing to approve revisions to the Texas State Implementation Plan to the emissions inventory (EI), the reasonable further progress (RFP) plan and contingency measures, the vehicle miles traveled (VMT) offset analysis, and transportation conformity motor vehicle emissions budgets associated with the reasonable further progress portion of these revisions. The EPA is proposing to approve these revisions because they satisfy the EI, the RFP, the VMT offset, and transportation conformity requirements for areas classified as severe nonattainment for the 1997 8-hour ozone national ambient air quality standard and demonstrate further progress in reducing ozone precursors.

**DATES:** Comments must be received on or before [insert date 30 days from date of publication in the Federal Register].

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R06-OAR-2010-0333, by one of the following methods:

- Federal Rulemaking Portal: <http://www.regulations.gov>. Follow the on-line instructions for submitting comments.
- U.S. EPA Region 6 “Contact Us” web site: <http://epa.gov/region6/r6coment.htm>. Please click on “6PD” (Multimedia) and select “Air” before submitting comments.
- E-mail: Mr. Guy Donaldson at [donaldson.guy@epa.gov](mailto:donaldson.guy@epa.gov). Please also send a copy by email to the person listed in the FOR FURTHER INFORMATION CONTACT section below.
- Fax: Mr. Guy Donaldson, Chief, Air Planning Section (6PD-L), at fax number 214-665-7263.

- Mail: Mr. Guy Donaldson, Chief, Air Planning Section (6PD-L), Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733.

- Hand or Courier Delivery: Mr. Guy Donaldson, Chief, Air Planning Section (6PD-L), Environmental Protection Agency, 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733. Such deliveries are accepted only between the hours of 8:00 a.m. and 4:00 p.m. weekdays except for legal holidays. Special arrangements should be made for deliveries of boxed information.

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*Docket:* All documents in the docket are listed in the [www.regulations.gov](http://www.regulations.gov) index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in [www.regulations.gov](http://www.regulations.gov) or in hard copy at the Air Planning Section (6PD-L), Environmental Protection Agency, 1445 Ross Avenue, Suite 700, Dallas, Texas 75202-2733. The file will be made available by appointment for public inspection in the Region 6 FOIA Review Room between the hours of 8:30 a.m. and 4:30 p.m. weekdays except for legal holidays. Contact the person listed in the FOR FURTHER INFORMATION CONTACT paragraph below to make an appointment. If possible, please make the appointment at least two working days in advance of your visit. There will be a fee of 15 cents per page for making photocopies of

documents. On the day of the visit, please check in at the EPA Region 6 reception area at 1445 Ross Avenue, Suite 700, Dallas, Texas.

The State submittal, which is part of the EPA record, is also available for public inspection at the State Air Agency listed below during official business hours by appointment: Texas Commission on Environmental Quality, Office of Air Quality, 12124 Park 35 Circle, Austin, Texas 78753.

**FOR FURTHER INFORMATION CONTACT:** Ms. Sandra Rennie, Air Planning Section (6PD-L), Environmental Protection Agency, Region 6, 1445 Ross Avenue, Suite 700, Dallas, Texas 75202-2733, telephone (214) 665-7367; fax number (214)665-7263; e-mail address [rennie.sandra@epa.gov](mailto:rennie.sandra@epa.gov).

**SUPPLEMENTARY INFORMATION:** Throughout this document, “we,” “us,” and “our” means EPA.

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## **I. What Action is EPA Proposing?**

The EPA is proposing to approve a revision to the Texas State Implementation Plan (SIP) for the Houston-Galveston-Brazoria (HGB) ozone nonattainment area submitted by the Texas Commission on Environmental Quality on April 1, 2010, and an updated revision using the MOVES2010a<sup>1</sup> mobile model submitted on May 6, 2013. We are proposing to approve the following SIP elements: the revised emission inventory (EI); the reasonable further progress plan (RFP) and contingency measures; the vehicle miles traveled (VMT) offset analysis; and the associated motor vehicle emission budget (MVEB) for transportation conformity. The SIP revision satisfies the EI, RFP, VMT offset, and MVEB requirements for areas classified as severe nonattainment for the 1997 8-hour ozone national ambient air quality standard (NAAQS) and demonstrates reasonable further progress in reducing ozone precursors. We are proposing to take this action pursuant to section 110 and part D of the Clean Air Act (Act or CAA) and EPA's regulations.

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<sup>1</sup> MOVES is an acronym for MOrtor Vehicle Emission Simulator. This new emission modeling system released September 23, 2011, estimates emissions for mobile sources covering a broad range of pollutants and allows multiple scale analysis of emissions estimates from cars, trucks & motorcycles. Use of the MOVES model in SIPs was required as of March 2, 2013.

## **II. What is the Background for this Action?**

In 1997 (62 FR 38856), the EPA revised the health-based NAAQS for ozone, setting it at 0.08 parts per million (ppm) averaged over an 8-hour time frame. The EPA set the 8-hour ozone standard based on scientific evidence demonstrating that ozone causes adverse health effects at lower ozone concentrations and over a longer period of time than was understood when the pre-existing 1-hour ozone standard was set. The EPA determined that the 8-hour standard would be more protective of human health, especially children and adults who are active outdoors, and individuals with a pre-existing respiratory disease, such as asthma.

On April 30, 2004 (69 FR 23858), the EPA finalized its attainment/nonattainment designations for areas across the country with respect to the 8-hour ozone standard. These actions became effective on June 15, 2004. Among those areas designated as nonattainment is HGB.

This designation triggered the CAA's section 110(a)(1) requirement that states must submit attainment demonstrations for their nonattainment areas to the EPA by no later than three years after the promulgation of the NAAQS. Accordingly, EPA's phase I 8-hour ozone implementation rule (Phase I Rule), published on April 30, 2004 (69 FR 23951), specified that states must submit attainment demonstrations for their nonattainment areas to the EPA by no later than three years from the effective date of designation, that is, by June 15, 2007.

Pursuant to the Phase 1 rule, an area was classified under subpart 2 of the CAA based on its 8-hour design value if that area had a 1-hour design value at or above 0.121 ppm (the lowest 1-hour design value in Table 1 of subpart 2). Based on this criterion, the HGB nonattainment area was classified as a moderate nonattainment area.

On November 29, 2005 (70 FR 71612), and as revised on June 8, 2007 (72 FR 31727), EPA published the final Phase 2 Rule for implementation of the 8-hour standard (Phase 2 rule). The Phase 2 rule addressed the RFP control and planning obligations as they apply to areas designated nonattainment for the 1997 8-hour ozone NAAQS.

Among other things, the Phase 1 and Phase 2 rules outline the SIP requirements and deadlines for various requirements in areas designated as moderate and above nonattainment. The rule further requires that modeling and attainment demonstrations, RFP plans, reasonably available control measures (RACM), projection year emission inventories, MVEB, and contingency measures were all due by June 15, 2007 (See 40 CFR 51.908(a), (c)).

Section 182(b)(1) of the CAA and EPA's 1997 8-hour ozone implementation rule (40 CFR 51.910) require each 8-hour ozone nonattainment area designated moderate and above to submit an EI and RFP plan, for review and approval into its SIP, that describe how the area will achieve actual emissions reductions of VOC and NO<sub>x</sub> from a baseline emissions inventory.

On June 15, 2007, the EPA received a request from Texas Governor Perry seeking voluntary reclassification of the HGB nonattainment area from moderate to severe nonattainment under the 1997 8-hour ozone standard. The EPA reclassified the eight-county HGB area from a moderate to a severe nonattainment area for the 1997 eight-hour ozone National Ambient Air Quality Standard (NAAQS) effective on October 31, 2008. (73 FR 56983). Reclassification of the HGB area to severe required Texas to develop and submit a revised RFP SIP and a VMT offset analysis.

### **III. What is EPA's Evaluation of the Revisions?**

The EPA's analysis and findings are discussed in this proposed rulemaking. A more detailed discussion is contained in the Technical Support Document (TSD) for this Proposal,

which is available on line at <http://www.regulations.gov>, Docket number EPA-R06-OAR-2010-0333.

On April 1, 2010, Texas submitted an updated emission inventory, a plan demonstrating 18 percent RFP for the period 2002-2008, contingency measures for RFP, and on-road VOC and NOx MVEBs. In addition, the RFP demonstrated 9% reductions from 2009 through 2011; 9% reductions from 2012 through 2014; 9% reductions from 2015 through 2017; 3% reductions in 2018; and 3% reductions in 2019 for contingency purposes. These accompanied an attainment demonstration which is the subject of a separate rulemaking. These SIP revisions were subject to notice and comment by the public, and the State of Texas addressed the comments received on the proposed SIP revisions. The State revised the EI and the RFP in a submittal dated May 6, 2013, using EPA's MOVES2010a mobile model in place of MOBILE6 that was used in the 2010 submittal.

#### A. Base Year Emissions Inventory

An emissions inventory is a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in an area and is required by section 172(c)(3) of the CAA. For ozone nonattainment areas, the emissions inventory needs to contain VOC and NOx emissions because these pollutants are precursors to ozone formation. In the Phase 2 implementation rule, the EPA recommended 2002 as the base year emissions inventory<sup>2</sup>, and is therefore the starting point for calculating RFP. Texas submitted the 2002 base year inventories for all state nonattainment areas on May 13, 2005. The EPA approved the HGB emission inventory on April 22, 2009 (74 FR 18298). The April 2010 and May 2013 submittals provide an updated base year inventory using MOVES2010a.

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<sup>2</sup> November 18, 2002 EPA memorandum "2002 Base Year Emission Inventory SIP Planning:8-Hour Ozone, PM2.5 and Regional Haze Programs, available at [http://www.epa.gov/ttnchie1/eidocs/2002baseinven\\_102502new.pdf](http://www.epa.gov/ttnchie1/eidocs/2002baseinven_102502new.pdf)



EPA is proposing to approve revisions to the 2002 Base Year Emissions Inventory.

Table 1 provides the 2002 emissions inventory as previously submitted in 2005 and approved in 2009 with the updated 2010 inventory revised and adopted by Texas in 2013 for approval into the SIP.

**Table 1: Revisions to the 2002 RFP Base Year Emissions Inventory (tons/day)**

<b>Source Type</b>	<b>NO<sub>x</sub></b>		<b>VOC</b>	
<b>Submittal Date</b>	<b>2005</b>	<b>2010</b>	<b>2005</b>	<b>2010</b>
Point	339.48	339.29	297.12	316.62
Area	40.15	89.11	219.51	407.61
On-road Mobile	283.20	371.89	114.30	124.47
Non-road Mobile	167.74	156.98	112.37	84.32
<b>Total</b>	830.57	957.27	743.30	933.02

A summary of the updated 2002 base year inventory submitted May 6, 2013 is shown in Table 2 below.

**Table 2. RFP 2002 Baseline Emissions Inventory Summary.**

<b>RFP 2002 Baseline Emissions Inventory Summary</b>				
<b>Source Type</b>	<b>NO<sub>x</sub></b>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>VOC</b>
	<b>Uncontrolled</b>		<b>Controlled</b>	
Point	339.29	316.62	339.29	316.62
Area	89.11	407.61	89.11	407.61
On-road Mobile	552.30	205.76	371.89	124.47
Non-road Mobile	166.98	100.15	156.98	84.32
<b>Total</b>	1147.68	1030.14	957.27	933.02

## B. Adjusted Base Year Inventory and 2008 RFP Target Levels

The process for determining the emissions baseline from which the RFP reductions are calculated is described in section 182(b)(1) of the CAA and 40 CFR 51.910. This baseline value is the 2002 adjusted base year inventory. Sections 182(b)(1)(B) and (D) require the exclusion from the base year inventory of emissions benefits resulting from the Federal Motor Vehicle Control Program (FMVCP) regulations promulgated by January 1, 1990, and the Reid Vapor Pressure (RVP) regulations promulgated June 11, 1990 (55 FR 23666). The FMVCP and RVP emissions reductions are determined by the State using EPA's highway mobile source emissions model software, MOVES2010a. The FMVCP and RVP emission reduction are then removed from the base year inventory by the State, resulting in an adjusted base year inventory. The emission reductions needed to satisfy the RFP requirement are then calculated from the adjusted base year inventory. The reductions are then subtracted from the adjusted base year inventory to establish the emissions target for the RFP milestone year (2018).

For severe areas like the HGB nonattainment area, the CAA § 182(c)(2)(B) specifies a 15 percent reduction in ozone precursor emissions over an initial six-year period, and an additional three percent per year for every year thereafter until the attainment year. In the Phase 2 rule, EPA provided that areas that were also designated nonattainment and classified as moderate or higher for the 1-hour ozone standard and that have the same boundaries as an area for which the EPA fully approved a 15 percent plan for the 1-hour NAAQS, are considered to have met the requirement of section 182(b)(1) of the CAA for the 8-hour NAAQS. In this situation, a severe nonattainment area is subject to RFP under 172(c)(2) of the CAA and shall submit, no later than three years after designation for the 8-hour NAAQS, a SIP revision that meets the requirements of 40 CFR 51.910(b)(2). The RFP SIP revision must provide for a 15 percent emission reduction

(of NO<sub>x</sub> and/or VOC) accounting for any growth that occurs during the six year period following the baseline emissions inventory year, i.e., 2002-2008.

The HGB nonattainment area had the same boundary under the 1-hour ozone standard as that of the 8-hour ozone standard. The HGB area under the 1-hour ozone standard was classified as severe. The EPA approved the HGB 15 percent RFP plan on April 22, 2009 (74 FR 18298). Therefore, according to the Phase 2 Rule, the RFP plan for the HGB nonattainment area may use either NO<sub>x</sub> or VOC emissions reductions (or both) to achieve the 15 percent emission reduction requirement.

According to section 182(b)(1)(D) of the CAA, emission reductions that resulted from the FMVCP and RVP rules promulgated prior to 1990 are not creditable for achieving RFP emission reductions. Therefore, the 2002 base year inventory is adjusted by subtracting the VOC and NO<sub>x</sub> emission reductions that are expected to occur between 2002 and the future milestone years due to FMVCP and RVP rules.

Texas sets out its calculations for the adjusted base year (ABY) inventory and milestone target levels in Chapter 2, section 2.5.3 of the 2010 submittal and Chapter 2, section 2.5 of the 2013 submittal, according to the following method. See the calculations in Table 3 below.

Step 1. Estimate the actual anthropogenic base year inventory for both VOC and NO<sub>x</sub> in 2002 with all 2002 control programs in place.

Step 2. Using the same highway vehicle activity inputs used to calculate the actual 2002 inventory, run the appropriate motor vehicle emissions model for 2002 and for 2008 with all post-1990 CAA measures turned off. Any other local inputs for vehicle inspection and maintenance (I/M) programs should be set according to the program that was required to

be in place in 1990. Fuel RVP should be set at 9.0 or 7.8 depending on the RVP required in the local area as a result of fuel RVP regulations promulgated in June 1990.

Step 3. Calculate the difference between 2002 and 2008 VOC emissions factors calculated in Step 2 and multiply by 2002 VMT. The result is the VOC emissions reductions that will occur between 2002 and 2008 without the benefits of any post-1990 CAA measures. These are the non-creditable VOC reductions that occur over this period. Calculate the difference between 2002 and 2008 NO<sub>x</sub> emissions factors calculated in Step 2 and multiply by 2002 VMT. This result is the NO<sub>x</sub> emissions reductions that will occur between 2002 and 2008 without the benefits of any post-1990 CAA measures. These are the non-creditable NO<sub>x</sub> reductions that occur over this period.

Step 4. Subtract the non-creditable VOC reductions calculated in Step 3 from the actual anthropogenic 2002 VOC inventory estimated in Step 1. Subtract the non-creditable NO<sub>x</sub> reductions calculated in Step 3 from the actual anthropogenic 2002 NO<sub>x</sub> inventory estimated in Step 1. These adjusted VOC and NO<sub>x</sub> inventories are the basis for calculating the target level of emissions in 2008.

Step 5. The target level of VOC and NO<sub>x</sub> emissions in 2008 needed to meet the 2008 rate of progress ROP requirement is any combination of VOC and NO<sub>x</sub> reductions from the adjusted inventories calculated in Step 4 that total 18 percent.

**Table 3. HGB NAA 2008 RFP Target Level Calculations with NO<sub>x</sub> Substitution (Ozone Season tpd)**

Description		Formula	NO <sub>x</sub>	VOC
A	2002 Rate-Of Progress Base Year Inventory		957.27	933.02
B	2002 On-Road ABY emissions inventory		552.30	205.76
C	FMVCP/RVP Reductions Between 2002 and 2008	B - C	-25.99	-0.13
D	2008 On-Road ABY emissions inventory		578.29	205.89
E	2008 ABY emission inventory		983.26	933.15
F	RFP Ratio		17%	1%
G	Emissions Reductions Required Between 2002 & 2008	E x F	167.15	9.33
	Target Level for 2008	A - G	816.10	923.82

### C. Projected Inventories and Determination of RFP

Texas describes its methods used for developing its 2018 projected VOC and NO<sub>x</sub> inventories in Chapter 2 of the 2010 SIP submittal. EPA reviewed the procedures Texas used to develop its projected inventories and found them to be reasonable.

Projected controlled 2018 emissions for the HGB nonattainment area are summarized in Tables 4 and 5.

**Table 4. Summary of HGB RFP NO<sub>x</sub> Emission Reductions in tons per day**

Control Strategy Description	2008	2011	2014	2017	2018
Mass Emissions Cap and Trade Program (MECT)	219.83	227.65	243.87	263.23	269.94
Tank Landing Loss Rule	0.00	0.00	0.00	0.00	0.00
Federal Portable Fuel Container (PFC) Rule	0.00	0.00	0.00	0.00	0.00
Federal Motor Vehicle Control Program (FMVCP)	150.64	319.72	409.05	486.84	510.15
Federal Reformulated Gasoline (RFG)	150.64	189.54	213.44	235.00	241.29
Inspection and Maintenance (I/M)	17.35	16.62	11.80	8.03	7.10
On-road Texas Low Emission Diesel (TxLED)	6.03	5.08	3.52	2.55	2.36
Tier I and II Locomotive NO <sub>x</sub> standards	11.74	12.75	14.09	15.24	16.04
Small Non-Road Spark Ignition (SI) Phase I	-0.30 <sup>1</sup>	-0.39 <sup>1</sup>	-0.47 <sup>1</sup>	-0.56 <sup>1</sup>	-0.58 <sup>1</sup>
Heavy-Duty Non- Road Engines	5.76	7.91	9.64	12.02	12.56
Tier 2 and 3 Non-Road Diesel Engines	8.13	14.01	18.76	23.25	24.29
Federal Standards for New Small Non-Road Spark Ignition (SI) Engines (Phase II)	1.25	1.65	1.85	1.99	2.04

Federal Standards for New Large Non-Road SI and Recreational Marine	12.27	20.30	27.01	31.10	32.13
Non-road TxLED	2.87	2.59	2.14	1.73	1.59
Non-road RFG	0.00	0.00	0.00	0.00	0.00
Tier 4 Federal Standards for Diesel Engines	0.00	0.52	4.67	10.96	12.82
Federal Marine Diesel Tier 2	1.96	3.23	4.72	6.20	6.90
Sum of Control Reductions	678.70	821.18	964.09	1097.58	1138.63

<sup>1</sup>The negative NOx emissions reductions number from Small Non-Road SI Phase I engines is attributed to fleet growth in light of more stringent standards.

**Table 5. Summary of HGB RFP VOC Emission Reductions in tons per day**

<b>Control Strategy Description</b>	<b>2008</b>	<b>2011</b>	<b>2014</b>	<b>2017</b>	<b>2018</b>
Mass Emissions Cap and Trade Program (MECT)	0.00	0.00	0.00	0.00	0.00
Tank Landing Loss Rule	0.00	11.50	11.50	11.50	11.50
Federal Portable Fuel Container (PFC) Rule	0.00	3.68	9.65	10.10	10.25
Federal Motor Vehicle Control Program (FMVCP)	109.17	148.83	188.98	222.89	232.44
Reformulated Gasoline (RFG)	22.03	22.79	17.27	14.12	13.48
Inspection and Maintenance (I/M)	9.56	9.77	7.99	6.86	6.51
On-road Texas Low Emission Diesel (TxLED)	0.00	0.00	0.00	0.00	0.00
Tier I and II Locomotive NOX standards	0.27	0.34	0.43	0.53	0.59
Small Non-Road Spark Ignition (SI) Phase I	1.77	2.50	3.23	3.95	4.19
Heavy-Duty Non- Road Engines	4.73	6.82	8.54	10.17	10.58
Tier 2 and 3 Non-Road Diesel Engines	0.95	1.68	2.32	2.95	3.10
Small Non-Road Spark Ignition (SI) Engines (Phase II)	16.70	20.81	22.72	24.13	24.57
Large Non-Road SI and Recreational Marine	4.14	7.96	11.37	14.03	14.76
Non-road TxLED	0.00	0.00	0.00	0.00	0.00
Non-road RFG	0.04	0.13	0.22	0.30	0.33
Tier 4 Diesel Engines	0.00	0.03	0.26	0.52	0.59
Federal Marine Diesel Tier 2	0.08	0.12	0.18	0.24	0.26
Sum of Control Reductions	169.44	236.96	284.66	322.29	333.15

To determine if 2018 RFP is met in the HGB nonattainment area, the total projected controlled emissions must be compared to the target levels calculated in the previous section of this document. As show below in Table 6, the total VOC and NOx emission projections meet the 2018 emission targets. Therefore, the 2018 RFP in the HGB nonattainment area is demonstrated.

**Table 6. Summary of RFP Demonstration for HGB (Tons/Day)**

	<b>Inventory</b>	<b>NO<sub>x</sub></b>	<b>VOC</b>
1	2018 Target	555.22	907.50
2	2018 Uncontrolled Emissions	1636.21	1210.28
3	2008-2017 RFP Emission Reductions	1097.60	302.46
4	2017-2018 RFP Emission Reductions	41.03	10.86
5	Controlled RFP Emissions Forecast (Line 2 minus Line 3 minus Line 4)	497.59	896.95
6	Amount of Creditable Reductions Reserved for 2009-2018 Contingency	24.58	4.67
7	2018 Projected Emissions after RFP Reductions (Add Lines 5 and 6)	522.17	901.62
8	Excess(+)/Shortfall(-) (Line 1 minus Line 7)	+33.04	+5.88
9	RFP Met? (Line 7 < Line 1)	Yes	Yes

#### D. Control Measures and Emission Reductions for RFP

The control measures upon which Texas relies for credit to demonstrate RFP requirements for the HGB nonattainment area are described in Chapter 4 of the 2010 SIP submittal. To demonstrate RFP for the HGB nonattainment area, Texas used a combination of (1) stationary point, (2) highway mobile, and (3) non-road mobile source control measures.

Stationary point source NO<sub>x</sub> reductions are from the mass emissions cap and trade program (MECT). The MECT program is mandatory for stationary facilities that emit NO<sub>x</sub> in the HGB ozone nonattainment area (at sites that have a collective design capacity of 10 tons per year or more) and which are subject to the Texas Commission on Environmental Quality NO<sub>x</sub> rules as found at 30 TAC Chapter 117. Non-road emission reductions are from Federal controls on non-road engines. Reduction in on-road mobile source emissions are from the inspection and maintenance (I/M) program, summer reformulated gasoline, the Federal Motor Vehicle Control Program (FMVCP), and the Texas low emission diesel (TxLED) program.

The EPA initially approved the MECT rules on November 14, 2001 (66 FR 571252). The most recent revision to these rules was on July 16, 2009 (74 FR 34503). All non-road, summer

RFG and the FMVCP are federal programs. The I/M program was initially approved November 14, 2001 (66 FR 57268), with the most recent revision on September 6, 2006 (71 FR 52670). The TxLED program was initially approved November 14, 2001 (66 FR 57196), with the most recent revision on May 6, 2013 (78 FR 26255). Emission reductions from these control measures are summarized in Tables 5 and 6 above.

#### **E. Contingency Measures**

Section 172(c)(9) of the CAA requires a state with a moderate or above ozone nonattainment area to include sufficient additional contingency measures in its RFP plan in case the HGB nonattainment area fails to meet RFP requirements. The same provision of the CAA also requires that the contingency measures must be fully adopted control measures or rules. Upon failure to meet and RFP milestone requirement, the state must be able to implement the contingency measures without any further rulemaking activities. Upon implementation of these measures, additional emission reductions of at least 3 percent of the adjusted 2002 baseline must be achieved. For more information on contingency measures, see the April 16, 1992 General Preamble (57 FR 13498, at 13512) and the November 29, 2005 Phase 2 8-hour ozone implementation rule (70 FR 71612).

To meet the requirements for contingency emission reductions, the EPA interprets the CAA to allow for the use of early implementation of control measures as contingency measures. The EPA also interprets the CAA to allow for the substitution of NO<sub>x</sub> emission reductions for VOC emission reductions in the contingency plans (by any combination of NO<sub>x</sub> and VOC, as long as the 3 percent reduction is achieved and 0.50 percent of the total is attributable to VOCs as prescribed by Texas).



The RFP contingency requirement may be met by including in the RFP plan a demonstration of 27 percent VOC and NO<sub>x</sub> RFP reductions. The additional 12 percent above the 15 percent requirement must be attributed to specific measures. Texas elected to use emission reductions in excess of those needed for RFP as the contingency measures for the HGB RFP SIP. Tables 7-47 and 7-48 in the state's submittal show how this is done. Table 7 below summarizes these calculations and results for the 2018 attainment year. Contingency measures for the 2008-2017 milestone years were calculated in a similar manner.

**Table 7. Contingency Measure Demonstration for the 2018 Attainment Year (Tons/Day)**

<b>Description</b>	<b>NO<sub>x</sub></b>	<b>VOC</b>
2018 ABY Emission Inventory	1003.92	935.59
Percent for contingency calculation (total of 3%)	2.50	0.50
3% needed for contingency (2018-2019)	25.10	4.68
Control reductions to meet contingency requirements		
Surplus reductions from 2018 RFP demonstration	33.04	5.88
Subtract 2018 RFP MVEB safety margin from surplus reductions from 2018 RFP demonstration	-11.00	-5.18
State and federal control measures (see TSD)	33.00	10.83
Total contingency reductions	55.04	11.53
Contingency excess (+) or shortfall (-)	+29.95	+6.85
Contingency met?	Yes	Yes

To determine if Texas meets the 3 percent contingency measure requirement for the HGB nonattainment area, the total projected controlled emissions (including growth, but excluding reductions from the non-creditable pre-1990 FMVCP) must be compared to the contingency measure target levels calculated above. Texas has sufficient early contingency measures in place to meet the contingency measure requirement for the HGB nonattainment area for purposes of demonstrating RFP in the attainment year and in the milestone years.

#### F. Vehicle Miles Traveled Offset Analysis

##### 1. What Is a VMT Offset Analysis?

Section 182(d)(1)(A) of the Act directs states containing ozone nonattainment areas classified as severe, pursuant to section 181(a) of the Act, to adopt specific enforceable transportation control strategies (TCSs) and transportation control measures (TCMs) to offset increases in emissions resulting from growth in vehicle miles traveled (VMT) or numbers of vehicle trips and to obtain reductions in motor vehicle emissions as necessary (in combination with other emission reduction requirements) to comply with the Act's RFP milestones (sections 182(b)(1) and (c)(2)(B)) and attainment demonstration requirements (section 182(c)(2)(A)). Section 182(d)(1)(A) of the Act directs states to submit the VMT Offset SIP by November 15, 1992, for any severe and above ozone nonattainment area. Texas has one severe 1997 8-hour ozone nonattainment area, the HGB area, with an attainment deadline of 2018.

The EPA originally interpreted section 182(d)(1)(A) in the April 16, 1992, General Preamble to Title I of the Act (57 FR 13498, 13521–13523). In that interpretation, EPA allowed areas to meet the requirement by using the aggregate motor vehicle emissions from a prior year as the appropriate baseline against which to measure the change in emissions to determine whether VMT offsets are required. In other words, a plan was approvable if it showed decreases in aggregate year-over-year motor vehicle emissions from a base year through the applicable attainment year. EPA applied this interpretation in approving numerous states' VMT offset demonstrations, including our 2001 approval of the HGB area's first VMT offset demonstration. Although a commenter objected to this interpretation in our 2001 approval, it did not challenge it in court. However, EPA's historical interpretation of section 182(d)(1)(A), as applied to California's 2003 South Coast 1-Hour Ozone SIP, was finally challenged in the U.S. Court of Appeals for the 9<sup>th</sup> Circuit. In 2011, that court rejected EPA's interpretation, stating that section

182(d)(1)(A) requires VMT offsets if there is “any increase in the level of emissions *solely* from VMTs (italics added).”<sup>3</sup> The court explained that EPA incorrectly interpreted the phrase “growth in emissions” as meaning a growth in “aggregate motor vehicle emissions” versus a growth solely from VMT. As a result, the court held that EPA should have required the State to implement TCMs to offset growth in emissions from growth in VMT. However, the Court acknowledged that “clean car technology” advances could result in there being no increase in emissions even in the face of VMT growth, which would then allow VMT to increase without triggering the requirement to adopt offsetting TCMs. In response to the court’s decision, EPA provided new guidance for states with severe or above areas. The guidance, *Implementing Clean Air Act Section 182(d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Travelled*,<sup>4</sup> recommends that both TCSs and TCMs should be included in calculations for the purpose of determining the degree to which any hypothetical growth in emissions due to growth in VMT should be offset.

The approved HGB 1-hour ozone attainment demonstration (November 14, 2001, 66 FR 57160) relies on the EPA approval of a VMT Offset analysis dated November 14, 2001 (66 FR 57247). On May 6, 2013, the State submitted an analysis based on the new EPA guidance, which demonstrates how the HGB area meets the VMT Offset requirement of CAA 182(d)(1)(A). This was done in concert with the revised emission inventory, the RFP, and the MVEBs for 2018.

## 2. How Is the VMT Offset Requirement Satisfied?

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<sup>3</sup> *Association of Irrigated Residents v. EPA*, 632 F.3d 584, at 596-597 (9th Cir. 2011), reprinted as amended on January 27, 2012.

<sup>4</sup> Office of Transportation and Air Quality, EPA-420-B-12-053, August 2012. This guidance is available at <http://www.epa.gov/otaq/stateresources/policy/general/420b12053.pdf>.

The August 2012 guidance cited above explains how States may demonstrate that the VMT offset requirement is satisfied. States are recommended to estimate emissions for two different years: the nonattainment area's base year and three different scenarios for the attainment year. One emission inventory is developed for the base year and three different inventory scenarios are developed for the attainment year. For the attainment year the state would present three emissions estimates, two of which would represent hypothetical emissions scenarios that would provide the basis to identify the "growth in emissions" due solely to growth in VMT, and one that would represent projected actual motor vehicle emissions after fully accounting for projected VMT growth and offsetting emissions reductions obtained by all creditable TCMs and TCSs. See the guidance for specific details on how states might conduct the calculations. To properly construct these inventories, a special version of MOVES2010 was provided to the State, MOVES2010bROP, which was designed by EPA to be used exclusively for VMT Offset demonstrations. MOVES2010bROP is identical to the original April 2012 release of MOVES2010b except that it allows users to set a base year other than 1990 for the purposes of the VMT offset calculation.

The base year (2002) on-road VOC emissions should be based on VMT in that year and it should reflect all enforceable TCSs and TCMs in place in the base year. This would include the vehicle emissions standards, state and local control programs such as inspection and maintenance programs or fuel rules, and any additional implemented TCSs and TCMs that were already required by or credited in the SIP as of that base year.

The first of the attainment year emissions calculations for the attainment year (2018) would be based on the projected VMT for that year, and assume that no new TCSs or TCMs

beyond those already credited in the base year inventory have been put in place since the base year. This calculation demonstrates how emissions would hypothetically change if no new TCSs or TCMs were implemented, and VMT was allowed to grow at the projected rate from the base year. This estimate would show the potential for an increase in emissions due solely to growth in VMT. This represents a no-action-taken scenario. Emissions in the attainment year may be lower than those in the base year due to the fleet that was on the road in the base year gradually being replaced through fleet turnover, but they would still be higher than they would have been assuming VMT had held constant.

The second of the attainment year's emissions calculations for the attainment year would also assume that no new TCSs or TCMs beyond those already credited were added or implemented after the base year and would also assume that there was no growth in VMT between the base year and attainment year. This estimate would reflect the hypothetical emissions level that would have occurred had no further TCMs or TCSs been adopted or implemented and had VMT levels held constant. Like the first estimate, emissions in the attainment year may be lower than those in the base year due to the fleet that was on the road in the base year gradually being replaced through fleet turnover, but in this case they would not be influenced by any growth in VMT. This emissions estimate would reflect a ceiling on the emissions that should be allowed to occur under the statute as interpreted by the Court in the attainment year because it shows what would happen under a scenario in which no new TCSs or TCMs are put in place and VMT is "held constant" during the period from the area's base year to its attainment year. This represents a VMT ceiling scenario. This hypothetical status quo is a necessary step in identifying the target level of emissions from which states would determine

whether further TCMs or TCSs would need to be adopted and implemented in order to offset “any increase in emissions due solely to VMT” as shown by the first calculation. The comparison of these first two calculations would thus identify whether there is a hypothetical growth in emissions from growth in VMT that would need to be offset.

Finally, the state would present the emissions that are actually expected to occur in the area’s attainment year, giving credit to all enforceable post-baseline-year added and credited TCSs and TCMs that have actually been adopted. This estimate would be based on the VMT that is expected to occur in the attainment year (i.e., the VMT level from the first estimate) and all of the TCSs and TCMs that are in reality expected to be in place and for which the SIP will take credit in the area’s attainment year, including any TCMs and TCSs adopted and credited since the baseline year. This represents the Attainment Year scenario (or the “actual” scenario). If this emissions estimate is less than or equal to the emissions ceiling that was established in the second of the attainment year calculations, the credited TCSs or TCMs for the attainment year would be sufficient to already offset the hypothetical growth in emissions represented by comparing the first two calculations. If, instead, the estimated attainment year emissions are greater than the ceiling which was established in the second of the emissions attainment year calculations, the state would need to implement additional TCSs or TCMs to further offset the growth in emissions and bring the actual emissions down to at least the “had VMT held constant” ceiling estimated in the second of the attainment year calculations.

### 3. What Does Texas' Demonstration Show?

The May 6, 2013 VMT analysis provides a 2002 base year inventory based on VMT in that year and includes all enforceable TCSs and TCMs in place in that base year of 2002. It also provides the three different scenarios for the attainment year inventories including the No-Action scenario, the VMT Offset Ceiling scenario, and the 2018 Attainment Year (actual) scenario, as described above. These were prepared using MOVES2010bROP, as provided by EPA specifically for the VMT offset analysis. In addition, for the actual scenario, the State clearly identified all enforceable post-base year TCMs and TCSs, relied upon in the attainment demonstration SIP submittal. These include, among other things, the vehicle inspection and maintenance, federal on-road and non-road emission control programs, and state and federal clean fuel programs.<sup>5</sup> A comparison of the 2018 attainment year inventory with the VMT Offset Ceiling scenario's results (step 3 in the guidance) shows that the emissions level calculated in step 4 is less than the emissions level calculated in step 3. See Table 8 below and Table 7-45 in the May 6, 2013 submittal .

**Table 8: VMT Offset Inventory Scenarios and Results**

<b>VMT Offset Scenario</b>	<b>Description</b>	<b>VMT Year</b>	<b>Control Year</b>	<b>Fleet Turnover Year</b>	<b>VOC Emissions</b>
<b>Scenario 1</b>	Base Year	2002	2002	2002	124.47
<b>Scenario 2</b>	No Action	2018	2002	2018	87.32
<b>Scenario 3</b>	VMT Offset Ceiling	2002	2002	2018	58.15
<b>Scenario 4</b>	Attainment Year	2018	2018	2018	51.84

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<sup>5</sup> Approval of the VMT Offset Plan requires approval of all the TCSs and TCMs that Texas relies on in the actual scenario. EPA has previously approved all such TCSs and TCMs. November 14, 2001, 66 FR 57195, 66 FR 57196, and 66 FR 57 261.

In this case, any increased emissions due to solely increased VMT identified in the difference between the levels of the No Action and VMT Offset Ceiling scenarios have been adequately offset by TCSs and TCMs used to identify emissions levels in the Attainment Year scenario. That is, the credited TCSs or TCMs for the attainment year will be sufficient to offset the hypothetical growth in emissions represented by comparing the first two calculations. So, the VMT Offset requirement is met, and no additional offsetting TCSs or TCMs beyond those already identified are required.

Therefore, we propose to approve the VMT Offset analysis for the HGB ozone nonattainment area.

#### G. Transportation Conformity Budgets

Transportation conformity is required by CAA section 176(c). The EPA's conformity rule requires that transportation plans, programs and projects conform to state air quality implementation plans and establishes the criteria and procedure for determining whether they do or not. Conformity to a SIP means that transportation activities will not produce new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. The MVEB is the mechanism to determine if the future transportation plans conform to the SIP. A MVEB is the maximum amount of emissions allowed in the SIP for on-road motor vehicles. The MVEB establishes an emissions ceiling for the regional transportation network. States must establish VOC and NO<sub>x</sub> MVEBs for each of the milestone years up to the attainment year and submit the mobile budgets to the EPA for approval. Upon an adequacy determination or approval by the EPA, states must conduct transportation conformity analyses for their Transportation



Improvement Programs and long range transportation plans to ensure highway vehicle emissions will not exceed relevant MVEBs.

Texas discusses MVEBs in Chapter 7 of the 2013 submittal and Chapter 5 in the 2010 submittal. The State worked with the Houston-Galveston Area Council to establish the budgets for 2008 and beyond. The mobile emission inventory was calculated using EPA's MOVES2010a mobile source emissions model.

Table 9 shows the total projected transportation emissions for milestone years 2008-2018, as submitted in Tables 7-43 through 7-47 of the 2013 SIP Submittal.

**Table 9. RFP Motor Vehicle Emissions Budgets for HGB**

<b>Year</b>	<b>NOx (Tons/Day)</b>	<b>VOC (Tons/Day)</b>
2008	261.95	102.50
2011	234.92	93.56
2014	171.63	71.56
2017	130.00	59.76
2018	120.99	57.02

For the budgets to be approvable, they must meet, at a minimum, EPA's adequacy criteria (See 40 CFR 93.118(e)(4)). The Notice of Adequacy Determination for these RFP MVEBs finding the revised 2010 RFP MVEBs (also termed transportation conformity budgets) adequate because they meet all of the criteria in 40 CFR 93.118(e)(4) was signed by the Regional Administrator on July 19, 2013. In addition to the budgets being adequate for transportation conformity purposes, EPA found the procedures Texas used to develop the MVEBs to be reasonable. In this action we propose to approve the revised budgets submitted on May 6, 2013.

We are proposing to find that the MVEBs are fully consistent with RFP, and proposing to find that the RFP plan is fully approvable, as it sets the allowable on-road mobile emissions the HGB area can produce and use to continue to demonstrate RFP. These budgets are approvable

because they conform to the emissions inventory projections provided for this RFP. Therefore, the 2013 budgets are proposed for approval.

#### **IV. Proposed Action**

The EPA's review of the 2008-2018 emission inventory, the RFP plan, the RFP contingency measures, the VMT Offset Plan, and the 2008-2018 transportation conformity budgets contained in the April 1, 2010 and May 6, 2013, submittals for the HGB nonattainment area fully address the CAA requirements, EPA's regulations, and are consistent with EPA guidance. Therefore, the EPA is proposing approval of these specific elements of the HGB 8-hour ozone plan. The EPA is soliciting public comments on the issues discussed in this document. These comments will be considered before taking final action.

#### **V. Statutory and Executive Order Reviews**

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the CAA and applicable Federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus in reviewing SIP submissions, the EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, these proposed actions:

- are not "significant regulatory actions" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);
- do not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);

- are certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);
- do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- do not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- are not economically significant regulatory actions based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- are not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- are not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the Clean Air Act; and
- do not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

#### **List of Subjects in 40 CFR part 52**

Environmental protection, Air pollution control, Carbon monoxide, Incorporation by reference  
Intergovernmental relations, Lead, Ozone, Nitrogen dioxide, Particulate matter, Reporting and  
recordkeeping requirements, Sulfur dioxide, Volatile organic compounds.

**List of Subjects in 40 CFR part 81**

Environmental protection, Air pollution control, Intergovernmental relations, Nitrogen dioxide,  
Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: August 28, 2013.

Ron Curry,  
Regional Administrator,  
Region 6.

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